Environmental Research

An International Journal of Environmental Medicine
and the Environmental Sciences

EDITOR-IN-CHIEF

Irving J. Selikoff

ASSOCIATE EDITORS

E. Cuyler Hammond
Paul Kotin
Patrick J. Lawther
Douglas H. K. Lee
Jaroslav Teisinger
Ian Webster

Volume 22, 1980

Copyright © 1980 by Academic Press, Inc.

All rights reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (21 Congress Street, Salem, Massachusetts, 01970), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1980 articles are the same as those shown for current articles.

MADE IN THE UNITED STATES OF AMERICA

CONTENTS OF VOLUME 22

NUMBER 1, JUNE 1980

A. MORGAN, S. R. MOORES, A. HOLMES, J. C. EVANS, N. H. EVANS, AND A. BLACK. The Effect of Quartz, Administered by Intratracheal Instillation, on the Rat Lung. I. The Cellular Response. 1

A. HOLMES AND A. MORGAN. Clearance of Anthophyllite Fibers from the Rat Lung and the Formation of Asbestos Bodies. 13

S. SHIMOMURA, A. KIMURA, H. NAKAGAWA, AND M. TAKAO. Mercury Levels in Human Hair and Sex Factors. 22

KLARA MILLER, ANGELA CALVERLEY, AND ELLIOTT KAGAN. Evidence of a Quartz-Induced Chemotactic Factor for Guinea Pig Alveolar Macrophages. 31

KRISTA KOSTIAL, I. RABAR, MAJA BLANUŠA, AND I. ŠIMONOVIĆ. The Effect of Iron Additive to Milk on Cadmium, Mercury, and Manganese Absorption in Rats. 40

C. C. TRAVIS AND A. G. HADDOCK. Interpretation of the Observed Age-Dependency of Cadmium Body Burdens in Man. 46

WILLIAM M. ABRAHAM, MATTHEW WELKER, WILLIAM OLIVER, JR., MARYANN MINGLE, ADOLPH J. JANUSZKIEWICZ, ADAM WANNER, AND MARVIN A. SACKNER. Cardiopulmonary Effects of Short-Term Nitrogen Dioxide Exposure in Conscious Sheep. 61

GLENN R. PHILLIPS, THOMAS E. LENHART, AND RICHARD W. GREGORY. Relation between Trophic Position and Mercury Accumulation among Fishes from the Tongue River Reservoir, Montana. 73

HARRY A. ROELS, JEAN-PIERRE BUCHET, ROBERT R. LAUWERYS, PIERRE BRUAUX, FRANCOISE CLAEYS-THOREAU, ALPHONSE LAFONTAINE, AND GEERT VERDUYN. Exposure to Lead by the Oral and the Pulmonary Routes of Children Living in the Vicinity of a Primary Lead Smelter. 81

J. P. BUCHET, H. ROELS, R. LAUWERYS, P. BRUAUX, F. CLAEYS-THOREAU, A. LAFONTAINE, AND G. VERDUYN. Repeated Surveillance of Exposure to Cadmium, Manganese, and Arsenic in School-Age Children Living in Rural, Urban, and Nonferrous Smelter Areas in Belgium. . 95

BETTI REISS, SONDRA SOLOMON, JOHN H. WEISBURGER, AND GARY M. WILLIAMS. Comparative Toxicities of Different Forms of Asbestos in a Cell Culture Assay. 109

ATTILIO D. RENZETTI, JR., JOSEPH CONRAD, SUETARO WATANABE, ALAN PALMER, AND JOHN ARMSTRONG. Thesaurosis—from Hairspray Exposure—a Nondisease. Validation Studies of an Epidemiologic Survey of Cosmetologists. 130

NORIKO YAGI AND YOSHINORI ITOKAWA. Lipid Metabolism in Polychlorinated Biphenyl-Poisoned Rats. 139

JANE Q. KOENIG, WILLIAM E. PIERSON, AND ROBERT FRANK. Acute Effects of Inhaled SO_2 plus NaCl Droplet Aerosol on Pulmonary Function in Asthmatic Adolescents. 145

G. ROBERT OLIN AND ANDERS AHLBOM. The Cancer Mortality among Swedish Chemists Graduated during Three Decades. A Comparison with the General Population and with a Cohort of Architects. . . . 154

A. LANGE. An Epidemiological Survey of Immunological Abnormalities in Asbestos Workers. I. Nonorgan and Organ-Specific Autoantibodies. 162

A. LANGE. An Epidemiological Survey of Immunological Abnormalities in Asbestos Workers. II. Serum Immunoglobulin Levels. 176

H. SINGH AND T. P. SINGH. Thyroid Activity and TSH Potency of the Pituitary Gland and Blood Serum in Response to Cythion and Hexadrin Treatment in the Freshwater Catfish, *Heteropneustes fossilis* (Bloch). 184

H. SINGH AND T. P. SINGH. Effect of Two Pesticides on Ovarian ^{32}P Uptake and Gonadotrophin Concentration during Different Phases of Annual Reproductive Cycle in the Freshwater Catfish, *Heteropneustes fossilis* (Bloch). 190

P. SEBASTIEN, R. MASSE, AND J. BIGNON. Recovery of Ingested Asbestos Fibers from the Gastrointestinal Lymph in Rats. 201

JORMA O. JÄRVISALO, JUKKA KILPIÖ, AND NILS-ERIK L. SARIS. Toxicity of Cadmium to Renal Mitochondria When Administered *in Vivo* and *in Vitro*. 217

HÅKAN BJÖRKLUND, LARS OLSON, AKE SEIGER, AND BARRY HOFFER. Chronic Lead and Brain Development: Intraocular Brain Grafts as a Method to Reveal Regional and Temporal Effects in the Central Nervous System. 224

F. W. BONNER, L. J. KING, AND D. V. PARKE. The Urinary Excretion of Enzymes following Repeated Parenteral Administration of Cadmium to Rats. 237

KOHEI SHIOTA, M. J. CHOU, AND HIDEO NISHIMURA. Embryotoxic Effects of Di-2-ethylhexyl Phthalate (DEHP) and Di-*n*-butyl Phthalate (DBP) in Mice. 245

HAJIME ODA, HIROSHI NOGAMI, SHIGEKO KUSUMOTO, TAICHI NAKAJIMA, AND AKIHIKO KURATA. Lifetime Exposure to 2.4 ppm Nitric Oxide in Mice. 254

S. R. V. RAGHAVAN, B. DWIGHT CULVER, AND HARVEY C. GONICK. Erythrocyte Lead-Binding Protein after Occupational Exposure. I. Relationship to Lead Toxicity. 264

SUMSULLAH KHAN AND K. P. PANDYA. Biochemical Studies on the Toxicity of *n*-Octane and *n*-Nonane. 271

P. R. E. GRIFFITHS. Morphological and Ultrastructural Effects of Sublethal Cadmium Poisoning on *Daphnia*. 277

M. J. WIESTER, R. ILTIS, AND W. MOORE. Altered Function and Histology in Guinea Pigs after Inhalation of Diesel Exhaust. 285

G. L. FISHER, D. SILBERMAN, AND O. G. RAABE. Chemical Characterization of Coal Fly Ash and Quantification of Lung Deposition in Rodent Inhalation Studies. 298

PETER H. ALBERS. Transfer of Crude Oil from Contaminated Water to Bird Eggs. 307

BETTI REISS, JAMES R. MILLETTE, AND GARY M. WILLIAMS. The Activity of Environmental Samples in a Cell Culture Test for Asbestos Toxicity. 315

M. H. WONG AND S. H. KWAN. Fungal Species Isolated from the Senescent Leaves of *Neyraudia arundinacea* Growing on Areas Disturbed by Iron-Ore Mining Activities. 322

DOUGLAS H. K. LEE. Seventy-five Years of Searching for a Heat Index. . 331

ANTHONY P. POLEDNAK. Mortality among Men Occupationally Exposed to Phosgene in 1943–1945. 357

STEPHEN A. KUTZ, RONALD D. HINSDILL, AND DEBORAH J. WELTMAN. Evaluation of Chemicals for Immunomodulatory Effects Using an *in Vitro* Antibody-Producing Assay. 368

ELAINE C. GROSE, DONALD E. GARDNER, AND FREDERICK J. MILLER. Response of Ciliated Epithelium to Ozone and Sulfuric Acid. 377

C. S. FULLMER, T. OKU, AND R. H. WASSERMAN. Effect of Cadmium Administration on Intestinal Calcium Absorption and Vitamin D-Dependent Calcium-Binding Protein. 386

BETTY B. WRAY AND A. WALLACE HAYES. Aflatoxin B_1 in the Serum of a Patient with Primary Hepatic Carcinoma. 400

MARCUS WASSERMANN, BRUNO BERCOVICI, SIMI CUCOS, DORA WASSERMANN, AND MOSHE RON. Storage of Some Organochlorine Compounds in Toxemia of Pregnancy. 404

C.-H. HO, C. Y. MA, B. R. CLARK, M. R. GUERIN, T. K. RAO, AND J. L. EPLER. Separation of Neutral Nitrogen Compounds from Synthetic Crude Oils for Biological Testing. 412

H. SAVOLAINEN. Glial Cell Toxicity of Ethyleneglycol Monomethylether Vapor. 423

WILLIAM S. LINN, MICHAEL P. JONES, RONALD M. BAILEY, MICHAEL T. KLEINMAN, CHARLES E. SPIER, D. ARMIN FISCHER, AND JACK D. HACKNEY. Respiratory Effects of Mixed Nitrogen Dioxide and Sulfur Dioxide in Human Volunteers under Simulated Ambient Exposure Conditions. 431

VLADIMÍR BENCKO, ELENA V. VASILIEVA, AND KAREL SYMON. Immunological Aspects of Exposure to Emissions from Burning Coal of High Beryllium Content. 439

NURTAN A. ESMEN, DIANE WHITTIER, RUSSELL A. KAHN, TERRY C. LEE, MAURA SHEEHAN, AND NANCY KOTSKO. Entrainment of Fibers from Air Filters. 450

J. W. LASKEY, G. K. REHNBERG, M. J. FAVOR, D. F. CAHILL, AND Z. PIETRZAK-FLIS. Chronic Ingestion of Cadmium and/or Tritium. II. Effects on Growth, Development, and Reproductive Function. . . . 466

STEPHEN A. KUTZ, M. SHARON MENTNECH, STEPHEN A. OLENCHOCK, AND PERVIS C. MAJOR. Precipitation of Serum Proteins by Extracts of Cotton Dust and Stems. Identification of β-Lipoprotein and Production of Specific Antibodies. 476

A. P. WEHNER, C. L. WILKERSON, J. A. MAHAFFEY, AND E. M. MILLIMAN. Fate of Inhaled Fly Ash in Hamsters. 485

THOMAS L. HAYES, JAMES B. PAWLEY, GERALD L. FISHER, AND MARVIN GOLDMAN. A Model for the Exposure of Individual Lung Cells to the Foreign Elements Contained in Fly Ash. 499

ANNE JOHANSSON AND PER CAMNER. Effects of Nickel Dust on Rabbit Alveolar Epithelium. 510

AUTHOR INDEX FOR VOLUME 22. 517

The Subject Index for Volume 22 will appear in the December 1980 issue as part of a cumulative index for the year 1980.